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Relationship of core self-evaluation (CSE) to approaches to student learning and studying

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Abstract

Insights on the use of the Core Self-Evaluation (CSE) and Study Process Questionnaire (SPQ) instruments are presented. The relationship of students' CSE with their approach to studying and learning is explored. Differences in approach to studying are also analyzed based on several categorical variables.

Introduction

The theory of core self-evaluation (CSE) has provided organizational scholars with a framework for describing disposition-based effects on work attitudes and behaviors. This research explores disposition-based effects on students' approaches to learning and studying. In addition, the present study was motivated by an interest in whether there are significant differences in student learning approaches based on categorical variables such as gender, class status, major (business major or not), and hours of study per week.

A. Core Self-Evaluation (CSE)

Core self-evaluations (CSE's) are evaluations that people make of themselves. The concept of CSE was introduced initially by Judge, Locke and Durham (1997) and later proposed as a dispositional source of job satisfaction (Judge, Locke, Durham, & Kluger, 1998). CSE was extended into the academic setting by Broucek (2005) where research results suggested that CSE's are significantly correlated with GPA and may be appropriate to use when dealing with freshman populations. The 12-item Course Self-Evaluation Scale (CSES), used in this study, was developed by Judge, Erez, Bobo and Thoresen (2003). According to Judge et al. (1997), core self-evaluation is a broad, higher-order trait comprised of four well-known personality traits: self-esteem, generalized self-efficacy, emotional stability and locus of control.

B. Student Approaches to Learning and Studying

Marton and Saljo (1976) identified three qualitatively different approaches by students to learning that are labeled deep, surface and achieving or strategic. Kember (2004) produced a revised two-factor version of the Learning Process Questionnaire (R-LPQ-2F) with deep and surface approach scales suitable for use by teachers in secondary schools to evaluate the learning approaches of their students. The resulting Study Process Questionnaire (SPQ) presents 22 items regarding student attitudes towards their studies and their usual way of studying. There are 11 items for deep approach and 11 for surface approach. It is a five point Likert-like scale ranging from never or rarely only true of me to always or almost always true of me.

The theory behind this model states that a student's approach to learning has two components:

- How the student approaches the task (strategy)
- Why the student wants to approach it (motive)

The focus of this study is on the following approaches to learning: surface approach and deep approach. In the surface approach, the student wants to learn because of external positive or negative consequences resulting in rote memorization of what appears to be the most important items. The intention is the completion of the task. No intrinsic motivation is seen from the participants (Entwistle, McCune, & Walker, 2001). If a student has a personal commitment to learning, relating current studies to previous knowledge and theorizing about what is learned, the student demonstrates a deep approach. This deep approach is supposed to be the result of intrinsic motivation and self-awareness of one's learning capacity.

Deep and surface approaches to learning have been identified in all disciplines typically found in universities (Prosser & Trigwell, 1999). Elias (2005) found that GPA weakly correlated with using the deep approach to studying ($r = .21$, $p < .001$) in an introductory accounting course.

The specific subscales under deep approach include: Deep Motive (intrinsic interest) and Deep Strategy (commitment to maximize learning). In like manner, the subscales under surface approach are: Surface Motive (fear of failure) and Surface Strategy (rote learning).

According to Kember (2004), there are two main influences on the student's development of a certain learning approach: personal factors in the student's background or personality and teaching context (e.g., standardized tests encourage a surface approach). This study focuses on the possible impact of the student's personality (core self-evaluation) on his or her learning approach. This study also explores potential differences in learning approach of business versus non-business students.

In a study by Prata-Sala and Reford (2010), results showed that students classified as high in self-efficacy (reading and writing) were more likely to adopt a deep or strategic approach to studying, while students classified as low in self-efficacy (reading and writing) were more likely to adopt a surface approach. A series of studies demonstrated that the 12-item CSES "had validity equal to that of an optimal weighting of the four specific core traits (self-esteem, generalized self-efficacy, neuroticism, and locus of control)" (Judge, Erez, Bobo, & Thoresen, 2003, p. 303). Since self-efficacy is one of the traits measured by the CSE, this study hypothesizes that a significant correlation exists between CSE and SPQ scores.

Hayes and Richardson (1995) discovered evidence that individual differences such as age and gender affect approaches to studying. Marton and Saljo (1976) noted that students' approaches to learning may also depend upon their perceptions of the context of their learning. The present study was motivated by an interest in whether there are significant differences in student learning approaches based on context as defined by class status, major (business major or not), and hours of study per week.

C. Research Question

This exploratory study revolved around two research questions:

RQ1 – Is there a relationship between core self-evaluation (CSE) and student approaches to learning and studying?

RQ2 – Is there a significant difference in student learning approaches based on categorical variables such as gender, class status, major (business major or not), and hours of study per week?

Methodology

During two semesters, 145 traditional undergraduate students in a Foundations of Business course at a faith-based Midwestern university completed both the CSE and SPQ (63 female, 82 male) questionnaires during class. This introduction to business course draws business majors and non-business majors. Further demographic information regarding the respondents is listed in Tables 1 through 3.

Tables

Table 1. Class status of respondents

	Frequency	Percent
Freshman	39	26.9
Sophomore	24	16.6
Junior	42	29.0
Senior	40	27.5
Total	145	100.0

Table 2. Business major or not

	Frequency	Percent
yes	92	63.4
No	53	36.6
Total	145	100.0

Table 3. Hours spent studying each week

		Frequency	Percent
Valid	Less than 5	35	24.1
	6 to 10	56	38.6
	11 to 15	38	26.2
	More than 15	15	10.4
	Total	144	99.3
Missing	System	1	.7
	Total	145	100.0

Findings

A. Core Self-Evaluation (CSE)

Although Broucek's study (2005) found that CSE scores are significantly correlated with student performance (based on GPA), Table 4 shows no such correlations were found in this study between CSE scores and student learning approaches (as measured by the SPQ).

Table 4. Correlations (Spearman's rho) between CSE scores and SPQ scores

	CSE Mean	Deep Approach Mean	Surface Approach Mean	Deep Motive Mean	Surface Motive Mean	Deep Strategy Mean	Surface Strategy Mean
Correlation Coefficient	1.000	.0625	.032	.048	-.021	.028	.067
Sig. (2- tailed)	.	.466	.710	.568	.802	.740	.426
N	145	140	141	143	142	142	144

However, a moderate correlation of .606 ($p<.05$) between CSE and the Surface Strategy subscale was noted for students who self-reported that they spend more than 15 hours per week studying (Table 5).

Table 5. Correlations (Spearman's rho) between CSE and surface strategy for students studying more than 15 hrs/week

I study this many hours per week	CSE Mean	Deep Approach Mean	Surface Approach Mean	Deep Motive Mean	Surface Motive Mean	Deep Strategy Mean	Surface Strategy Mean
More than Coefficient	1.000	.147	.302	.193	-.289	-.023	.606*
15 Sig. (2- tailed)	.	.615	.274	.509	.296	.936	.017
N	15	14	15	14	15	15	15

Recall that the surface strategy approach minimizes the scope of study (for example, the student focuses on only learning material that will be on the test) and involves rote memorization.

Although there was no significant difference in mean CSE scores based on class status, the mean CSE scores for business majors was significantly higher than for non-business majors (Table 6 ($p<.05$)).

Table 6. Difference in CSE Scores (business vs. non-business majors)

I am a business major	N	Mean	Std. Deviation	Std. Error Mean

CSE Mean*	Yes	92	3.649	.5129	.0535
	No	53	3.470	.5032	.0691

* t-Test; Difference significant at p< .05

Table 7 shows that the CSE mean scores were significantly different between male and female business students (though no significant difference was found between the CSE mean scores of female versus male non-business students).

Table 7. Difference in CSE scores (business vs. non-business student; male/female)

I am a business major		Gender	N	Mean	Std. Deviation	Std. Error Mean
Yes*	CSE Mean	Female	36	3.507	.5294	.0882
		Male	56	3.740	.4851	.0648
No	CSE Mean	Female	26	3.381	.4191	.0822
		Male	26	3.558	.5787	.1135

* t-Test; Difference significant at p< .05

This lower CSE mean for female business students may be associated with the higher surface strategy scores exhibited by female business students (Table 8).

Table 8. Difference in surface motive (female vs. male business students)

I am a business major		Gender	N	Mean	Std. Deviation	Std. Error Mean
Surface Motive Mean*		Female	36	3.819	.6509	.1085
		Male	53	3.443	.6752	.0927

* t-Test; Difference significant at p< .05

B. Student Approaches to Learning and Studying

No significant differences were evident in student approaches to learning and studying (SPQ scores) based upon gender or class status. However, the Deep Motive mean score from students who study more than 15 hours per week was found to be significantly higher (p <.05) than the Deep Motive mean score for students who study less than 5 hours per week (Table 9).

Table 9. Deep motive and surface strategy (students studying more than 15 hrs/week vs. less than 5 hrs/week)

I study this many hours per week	N	Minimum	Maximum	Mean	Std. Deviation

Less than 5	Deep Motive Mean*	34	1.0	4.9	2.387	.7297
	Surface Strategy Mean*	34	2.0	4.6	2.966	.6428
	Valid N (listwise)	34			.	
More than 15	Deep Motive Mean	14	2.1	4.6	2.929	.6028
	Surface Strategy Mean*	15	1.1	3.1	2.267	.5762
	Valid N (listwise)	14			.	

* t-Test; Difference significant at p< .05

Also, the Surface Strategy mean score from students who study less than 5 hours per week is significantly higher (p<.05) than the Surface Strategy mean score for students who study more than 15 hours per week (Table 9).

Table 10 shows that only 13% of business majors and 5.7% of non-business majors reported spending more than 15 hours per week studying.

Table 10. Hours of study per week (business vs. non-business majors)

I am a business major		Frequency	Percent	Valid Percent	Cumulative Percent
Yes	Valid	Less than 5	17	18.5	18.5
		6 to 10	33	35.9	54.3
		11 to 15	30	32.6	87.0
		More than 15	12	13.0	100.0
	Total		92	100.0	100.0
No	Valid	Less than 5	18	34.0	34.6
		6 to 10	23	43.4	78.8

11 to 15	8	15.1	15.4	94.2
More than 15	3	5.7	5.8	100.0
Total	52	98.1	100.0	
Missing System	1	1.9		
Total	53	100.0		

On the other hand, 18.5% of business majors and 34.6% of non-business majors reported spending less than 5 hours per week studying.

The highest scoring learning approach from these respondents is the Surface Motive (Table 11).

Table 11. Learning Approach (SPQ means)

All Respondents

Mean	Learning Approach	Focus is on:
3.526	Surface Motive	Fear of failure and need to get a good job
3.208	Deep Strategy	Maximize learning, relate ideas
3.023	Surface Approach	External positive or negative consequences
2.792	Deep Approach	Internal motivation or curiosity
2.734	Surface Strategy	Minimize scope of study; rote memorization
2.552	Deep Motive	Intrinsic interest and commitment to work

Business Majors
(CSE 3.649)*

Mean	Learning Approach	Focus is on:
3.526	Surface Motive	Fear of failure and need to get a good job
3.264	Deep Strategy	Maximize learning, relate ideas
3.030	Surface Approach	External positive or negative consequences

2.878*	Deep Approach	Internal motivation or curiosity
2.708	Surface Strategy	Minimize scope of study; rote memorization
2.644*	Deep Motive	Intrinsic interest and commitment to work
Non-business Majors (CSE 3.470)*		
Mean	Learning Approach	Focus is on:
3.410	Surface Motive	Fear of failure and need to get a good job
3.111	Deep Strategy	Maximize learning, relate ideas
3.012	Surface Approach	External positive or negative consequences
2.780	Deep Approach	Internal motivation or curiosity
2.638*	Surface Strategy	Minimize scope of study; rote memorization
2.387*	Deep Motive	Intrinsic interest and commitment to work

*Difference significant at p< .05

There are few differences in learning approach based on whether the student is a business major or not. However, there is a significant difference in the mean scores ($p<.05$) with business majors scoring higher on CSE, Deep Approach, and Deep Motive.

Discussion and Directions for Further Research

No significant correlations were found in this study between core self-evaluation (as measured by the CSES) and student learning approaches (as measured by the SPQ). A moderate correlation of .606 ($p<.05$) between CSE and the Surface Strategy subscale was noted for students who self-reported that they spend more than 15 hours per week studying. This suggests that students with a higher CSE and who study more than 15 hours per week exhibit more likelihood to follow a surface strategy approach to their studying and learning. This seems counterintuitive since one would hypothesize that a strong self-esteem and belief in one's own abilities would correlate with a deep learning approach.

Although there was no significant difference in mean CSE scores based on class status, the mean CSE scores for business majors was significantly higher than for non-business majors ($p<.05$). Repeating this study across several academic majors is suggested. CSE mean scores were significantly different ($p<.05$) between male and female business

students (though no significant difference was found between the CSE mean scores of female versus male non-business students). Lower CSE scores for female business students are associated with a higher SPQ score for the surface motive learning approach. This learning approach focuses on fear of failure. These results suggest that female business students who exhibit lower CSE scores (weaker self-esteem and belief in one's own abilities) may be motivated to some extent to study and learn out of fear of failure.

The Surface Strategy mean score from students who study less than 5 hours per week is significantly higher ($p<.05$) than the Surface Strategy mean score for students who study more than 15 hours per week. Students who study less than 5 hours per week tend to follow a strategy of learning that minimizes their scope of study and results in rote memorization. This is particularly troubling when one considers that Babcock and Marks (2010) recently reported that today's students are spending less time studying than their counterparts from the past. The rule of thumb that is often quoted is that each unit of credit requires 2 to 3 hours per week of work outside the classroom. So, a student carrying 15 credit hours should plan to spend 30 to 45 hours per week studying. The majority of students in this study had a 15 credit-hour load. Yet only 13% of business majors and 5.8% of non-business majors reported spending more than 15 hours per week studying. On the other hand, 18.5% of business majors and 34.6% of non-business majors reported spending less than 5 hours per week studying.

The highest scoring learning approach from these respondents is the Surface Motive. There are few differences in learning approach based on whether the student is a business major or not. However, there is a significant difference in the mean scores ($p<.05$) with business majors scoring higher on CSE, Deep Approach, and Deep Motive. The Deep Motive mean score from students who study more than 15 hours per week was found to be significantly higher ($p<.05$) than the Deep Motive mean score for students who study less than 5 hours per week. This suggests that students who study more hours per week are committed to their learning and have an intrinsic interest in what they are studying.

These results are based on a limited sample. It is recommended that future research includes students (various majors) from public universities and nontraditional adult learners. Another limitation involves the fact that hours of studying per week was self-reported and does not address quality of study effort regardless of time spent. This research was limited to the influence of students' personality on student learning approaches and may be somewhat discouraging as teachers consider that many students approach their courses with a surface approach to studying and learning. However, research has shown that the teaching context can also have an influence on student learning approaches. Trigwell (2004) suggested that when teachers adopted more student-focused approaches to teaching, their students adopted a deeper approach to learning. Rushton (2005) argues that frequent formative assessment (feedback) is an important process to enable learning, and in particular deep learning. And in the ever-broadening world of educational technology, Fullan and Langworthy (2013) state that "Digital content and learning resources have the potential to fulfill much of the content delivery requirements of teaching, allowing teachers to focus more naturally on creating compelling and personally

relevant learning experiences that engage their particular students." Thus, each teacher has an opportunity, or even a responsibility, to develop pedagogy that motivates students to practice a deeper approach to their studying and learning.

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